

Appl. No. 09/997,652
Amdt. Dated May 11, 2005
Reply to Office Action of January 19, 2005

Amendments to the Specification:

Please amend the Substitute Specification as follows:

On page 5, after the third paragraph that reads "Fig. 10 is an enlarged sectional view showing a part of Fig. 9" please insert the following new paragraph:

--Fig. 11 is a sectional view similar to Fig. 6 which uses a pressure-sensitive adhesive to detachably fix the body fluid absorbent member to the cover member.--

Please replace the paragraph bridging pages 6 and 7 of the Substitute Specification with the following paragraph:

-- Fig. 2 is a plan view of the diaper 1 in which the side edge portions 11, 12 connecting the front and rear waist regions 6, 7 to each other have been separated from one another with the diaper 1 having been unfolded in opposite directions as indicated by arrows 14, 15 in Fig. 1. In the diaper 1 unfolded in this manner, the cover member 2 has an hour glass shape and comprises an inner sheet 16 and an outer sheet 17 which are identical in shape as well as in size and which are intermittently bonded to each other by means of appropriate adhesive such as a hot melt adhesive or a welding technique. Elastic members 22 associated with the waist-opening and

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elastic members 23 associated with the respective leg-openings are attached under tension to an inner surface of the inner sheet 16 or an inner surface of the outer sheet 17 along longitudinally opposite end portions 18, 19 of the front and rear waist regions 6, 7, and along transversely opposite side edge portions 21 of the crotch region 8, of the cover member 2 respectively. The absorbent member 3 extends longitudinally across the crotch region 8 into the front and rear waist regions 6, 7 of the cover member 2 and has front and rear end portions 26, 27, which are bonded to the end portions 18, 19 of the front and rear waist regions 6, 7 by means of a hot melt adhesive 28 (See Fig. 6). Alternatively, Figure 11 depicts an alternative embodiment of the present invention in which the front and rear end portions 26, 27 can be are detachably attached to end portions 18, 19 by other means such as a pressure-sensitive adhesive 28'. In other embodiments or a mechanical fastener well known under the trade name of MAGICTAPE can be used to detachably attach the front and rear end portions 26, 27 to end portions 18, 19.

Transversely opposite side edge portions 29 of the absorbent member 3 extending between the front and rear end portions 26, 27 are provided with leak-barrier cuffs 31 which have openings toward a transversely middle zone of the absorbent member 3. Elastic members 33 extending between the front and rear end portions 26, 27 are attached under tension to inner edge portions 32 of the leak-barrier cuffs 31. The absorbent member 3 is, as indicated by chain lines in Fig. 2, formed on its backsheet 37 with first grooves 41 (See Fig. 4). As depicted in Fig. 2, each of the first grooves 41 consists of a first segment 41a that extends into the crotch region 8 and the front waist region 6 and a second segment 41b that extends into the crotch region 8 and the rear waist

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region 7, the first and second segments 41a and 41b of each first groove 41 being aligned with one another longitudinally and being excluded from extending across a longitudinal center of the crotch region 8 of the diaper and being excluded from extending into the front and rear end portions 26 and 27 of the diaper.--

Please replace the paragraph bridging pages 10-11 of the Substitute Specification with the following paragraph:

-- Referring to Fig. 6 which shows the diaper 1 in a sectional view taken along the section line VI – VI extending between the front and rear end portions 18, 19 of the cover member 2 as indicated in Fig. 2, the first and second segments 41a and 41b of each of the first grooves 41 are separated respectively in the crotch region 8 in the longitudinal direction by an appropriate spacing. If necessary, it is also possible to form all of the first grooves 41 so that they are connected and continuous, rather than being separated in the longitudinal direction. It should be understood that, while the leak-barrier cuffs 31 are normally folded down onto the topsheet 36, the leak-barrier cuffs 31 are illustrated in Fig. 6 as being raised somewhat in order that the presence of these leak-barrier cuffs 31 can be seen.--

Please replace the paragraph bridging pages 12-14 of the Substitute Specification with the following paragraph:

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-- Fig. 8 is a view similar to Fig. 2 but showing still another embodiment of the invention, Fig. 9 is a sectional view taken along the section line IX - IX in Fig. 8 and Fig. 10 is an enlarged sectional view showing a portion of Fig. 9. The diaper 1 shown in Figs. 8 - 10 has, in addition to the first grooves 41 or both the first and second grooves 41, 46 which are formed in the absorbent member 3 on the side of the backsheet 37, third grooves 47 formed in the absorbent member 3 on the side of the topsheet 36 so as to extend in the longitudinal direction. Preferably, the absorbent member 3 is formed on the side of the topsheet 36 with at least one portion of the third grooves 47 having an appropriate length and more preferably with at least two portions of the third grooves 47 each being spaced apart in the longitudinal direction in the crotch region 8 of the cover member 2. Referring to Fig. 8, the absorbent member 3 is formed along each of its transversely opposite side edge portions 29 with a pair of the third grooves 47 spaced from each other in the longitudinal direction. Taking account of the fact that the presence of the third grooves 47 tends to, in the same manner as the first grooves 41 in the embodiment shown by Fig. 4, restrain the absorbent member 3 from being easily curved between the front and rear end portions 26, 27, it is preferred to separate each of the third grooves 47 in the crotch region 8 so that the absorbent member 3 may be easily curved and thereby facilitated to fit to the wearer's crotch region. Each of the third grooves 47 preferably has a width of about 2 - 20 mm and a depth corresponding to about 1/4 - 3/4 of the thickness of the core 38. The third grooves 47 formed in this manner can reduce an amount of body fluids permeated sideways and prevent body fluids from leaking sideways of the diaper 1 by

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introducing body fluids such as urine to be guided thereinto. As depicted in Fig. 8, each of the third grooves 47 consists of a first segment 47a that extends into the crotch region 8 and the front waist region 6 and a second segment 47b that extends into the crotch region 8 and the rear waist region 7, the first and second segments 47a and 47b of each third groove 47 being aligned with one another longitudinally and being excluded from extending across a longitudinal center of the crotch region 8 of the diaper and being excluded from extending into the front and rear end portions 26 and 27 of the diaper. --